

Chemical Company's beef peptonoids, Benger's food, and the products of the Ramage Milk Products Co. of Detroit.

Clothing.

The Aertex cellular underwear was exhibited by Wreyford and Co. of Toronto. Messrs. Irwin, of 356, Princes Avenue, London, Canada, exhibited an ingenious costume for infants, consisting only of three garments easily put on and easily removed; the first garment was made of light flannel lined with silk, the second of silk and wool, the third of silk lined with mesh, the object of the whole design being to give warmth with little weight. A diaper of special construction, consisting of absorbent material, was provided; the feet and legs were clothed with woollen boots. All the clothes were very light, well designed, and at the same time warm.

Mineral Waters.

Mineral waters were exhibited by the Apollinaris Company and also by the Canada Mineral Water Company of Ottawa, which showed specimens of Russell lithia water, a saline water containing a small proportion of lithium chloride.

Nova et Vetera.

POST-HIPPOCRATIC SCHOOLS OF MEDICINE IN RELATION TO CONTEMPORARY PHILOSOPHY.

In a former article we attempted to explain the relation of early Greek philosophy to early Greek medicine. Continuing the same line of inquiry, we now propose to see how far the schools of medicine immediately succeeding Hippocrates were dominated by the philosophic influences of the time, and were indeed the expression of them. Goethe says somewhere that there is a certain logic in the actions of men and women which enabled him in his youth to write correctly about things of which he had no experience, but which, on growing older, he found out to be true. Similarly, in reflecting on the history of the art of healing, we are led to conclude that there is a logical bond between the various activities of the human mind, so that a subject such as medicine, independent as it may seem, does not grow up and develop in isolation, separated off from the other creations of mental energy, but is of necessity connected with the prevailing philosophic theories of the day. Periods of constructive medicine are the outcome of periods of constructive thought, so that we must not expect any serious advances in the former when the latter is in a state of stagnation.

The death of Hippocrates (B.C. 357) coincided with the decadence of philosophy and the corruption of morals which ensued after the battles of Leuctra and Mantinea, when Greece fell into a general condition of intellectual flabbiness and moral laxity. From this mental paralysis medicine assuredly did not escape. Instead of advancing soberly along the path traced out for her by Hippocrates, she embraced wild theories and absurd practices. During the five hundred years which elapsed between the death of the great physician of Cos and the advent of Galen it would seem that medical knowledge was in the trough of the wave. No striking discoveries were made or illuminating principles enunciated during that period; men either lost themselves on the hill-tops of speculation or were engulfed in the quagmires of doubt. The lack of intellectual fibre so characteristic of this epoch was reflected in the medical schools, for when one department of a nation's mental life suffers, the whole is apt to suffer with it.

The first of the medical schools of this period to become famous was that of the Dogmatists. The name is not very happily chosen, but it was given to them by Galen, and has been followed by subsequent writers, so that it must be adopted for the sake of convenience. Roughly speaking, they occupy the century from the death of Hippocrates to the establishment of medical schools at Alexandria (357-264). The earlier representatives of this school, namely Dioxippus and Praxagoras of Cos, followed closely the doctrines of their master Hippocrates; they accepted his medical teaching without, however, in the least imbibing his spirit of sober scientific observation. Thus they adopted his humoral pathology and made it a most

essential part of their system. According to this theory, all diseases are explained by a mixture of humours which are four in number, namely, (1) blood, (2) yellow bile found in the liver, (3) mucus in the head, (4) black bile in the spleen. The medical treatment based upon this was that medicines work upon the predominating cardinal humours, some expelling mucus, others removing bile, etc. This theory controlled medicine for more than ten centuries, and eventually only gave way to the most modern views. Far more important for this school, however, was the influence of the Platonic philosophy. Having taken as their motto the saying of Hippocrates that "the physician who is also a philosopher is Godlike,"¹ they proceeded with commendable zeal to try and earn this title by a careful study of the *Timaeus*. This famous dialogue of Plato became their textbook of philosophy, and with disastrous results, for this work, though described by Jowett as obscure and repulsive to the modern mind, had the greatest influence over the ancient and mediaeval world.

The obscurity arises from the attempt to conceive the whole of Nature without any adequate knowledge of the parts, and from a greater perception of similarities which lie on the surface than of differences which are hidden from view. The conception of the world as a whole, whether a person or an animal, has been the source of hasty generalizations, yet the general grasp of Nature led to a spirit of comprehensiveness in early philosophy which has not increased but rather diminished as the fields of knowledge have become more divided.²

The Dogmatists had the acumen to perceive that a science of medicine must be based upon physiology; their error consisted in attempting to erect a complete edifice before there were materials suitable or sufficient for the foundation. The highly imaginative temperament of Plato led him into numerous fanciful speculations in physiology as in other matters, which his more prosaic followers regarded as intended to be rigidly scientific truth, whereas Plato himself probably looked upon them only as points of view or understood them in a metaphysical sense. Many instances occur in the New Testament where the humble followers of the Founder of Christianity put constructions upon His sayings which astonish us by their naïveté and literalness.

Apart from the general spirit of the Platonic philosophy, the following specific doctrines in particular influenced the Dogmatists:

1. General scepticism as to the reality of sensible objects which are in a state of perpetual flux.
2. Life consists in spirit and in fire; the heat of the blood is the source of the fire.
3. The want of proportion in the physical elements of the body is the immediate cause of all diseases.
4. The doctrine of final causes introduced into physiology.

Such fantastic conceptions, as may readily be supposed, led them into strange errors. Thus we find the intense admiration for Plato induced Dioxippus to defend the absurd notion that liquids passed into the lungs; while Praxagoras, who realized that the nerves were the organs of sensation, though he did not invariably distinguish them from blood vessels and ligaments, placed their origin in the heart because Plato regarded that organ as the centre of sensation.

This school attached great importance to the ether, and here we find the influence of earlier philosophers:

All space between heaven and earth is filled with a subtle vapour which is for mortals the principle of life and the cause of disease.

Pythagoras had thought the motive force of the body was aerial; Anaxagoras assigned to the ether a perpetual movement, while Heraclitus and Democritus regarded the soul as identical with the ether. The influence of Pythagoras was further seen in the importance attached by this school to the number 7 and its multiples. Thus, they thought that some of the solid parts of the child were already formed at the end of the twenty-eighth day, and that the fetus had reached the size of a bee on the thirty-fifth. The effect of this number was supposed to make itself felt not only before birth, but through the whole course of life.

Another striking factor in the development of this school was the influence of the Sophists. This had the

¹ Ἰητὴρ γὰρ φιλόσοφος ἰσθῆος. Hippocrates, *Περὶ εὐσχημοσύνης*.

² Jowett's *Introduction to the Timaeus*.

effect of giving an enormous importance to the power of talking, so that to be a skilled rhetorician was a sure passport to success as a physician. The ability to argue with ingenuity and subtlety about disease was thought more highly of than the possession of any practical knowledge. Men preferred frivolous speculations to careful and deep researches. Words have at all times exercised a great dominion over mankind, and the devil, in the form of Mephistopheles, was fully alive to this when he says to the student in *Faust*:

Denn eben wo Begriffe fehlen
Da stellt ein Wort zur rechten Zeit sich ein.

The ancients, however, were much more subject to this influence than the moderns, and were easily led astray by false analogies.

The later members of the Dogmatic school came under a very different influence, namely that of the Stoics, and they endeavoured to apply the principles of Zeno to physiology and pathology. The natural result of this was to give a materialistic turn to the Dogmatists, for, according to Stoicism, "all that exists is for that very reason matter, since bodies only are a reality." The animal body they regarded as the result of forces purely mechanical. The soul even has a corporeal nature; it comes into being with the body in the physical mode of generation; but the material is a part of the divine fire which descended into the bodies of men when they first arose out of the ether. This fire of the soul is nourished by the blood, and the governing part of the soul has its seat in the heart, the centre of the course of the blood.³ This teaching of the Stoics was rather a violent change from the Platonic philosophy, and indeed the way in which the Dogmatists veered from one pole of thought to another helps to account for the fact that their practical contribution to medicine was so comparatively small.

Their great merit as a medical school lies in the fact that they made an attempt to found a scientific medicine. They continually sought for the hidden causes of disease, and though often their efforts were sufficiently fantastic and absurd, they kept alive faith in the powers of reason without which any scientific advance is impossible. The attempt to form a complete system of medicine was premature so long as the knowledge of the parts was so meagre and imperfect.

THE EMPIRICAL SCHOOL.

In sharp contrast with the school of the Dogmatists came the school of the Empirics. It arose in Alexandria about 280 B.C., and its founders were Philinus and Serapion, the pupils of Herophilus, whose name is well known, at least to all students of anatomy. Just as the Dogmatists regarded Plato as their philosophical guide, so the Empirics took Aristotle as their intellectual leader. The word "empirical" in connexion with medicine has an evil connotation. We must not suppose, however, that this school was empirical in the ordinary sense in which every ignorant and uneducated person is an empiric. The empiricism of this school and that of the vulgar have this much in common, that by each reasoning is banished from medicine. In the case of the ordinary man this arises from ignorance of the art of reasoning, whereas the physician of the Empirical school reasoned in the most subtle fashion so as to prove the futility of all reasoning. Readers of Marius the Epicurean may remember the passage in which Pater describes his hero as devoting a great metaphysical acuteness to proving metaphysical speculation impossible or useless.

Abstract theory was to be valued only so far as it might serve to clear the tablet of the mind from suppositions only half realizable or wholly visionary and leave it in flawless evenness to the impressions of a direct and concrete experience.

Something of this kind constituted the intellectual background of the Empirical school at Alexandria.

Several influences contributed to bring this school into being:

1. Reaction against the Dogmatists.—A natural disgust was felt at the constant succession of theories founded on an absurdly small number of observations and at systems which had far outrun positive knowledge; the general confusion was increased by the subtleties and sophisms with which each opinion was defended.

2. The immense commerce of the Ptolemies had brought to light a large number of new medicines, and we may assume that the market was flooded with them. The ancient vendor of drugs had this advantage over his modern counterpart, in that kings and princes took an interest in medical remedies which not even the most versatile of monarchs in our own day attempts to imitate. Thus Attalus III, King of Pergamus, studied poisons and their antidotes, even making experiments with them on condemned criminals. Nicomedes, of Bithynia, also employed his royal leisure in the study of medicines. Best known of all these royal patrons is, of course, Mithridates, King of Pontus. He is said to have taken a poison and an antidote every day in order to render himself immune to poisons. He also wrote a book on medicines and poisons. It is hardly astonishing, therefore, that many doctors thought more about trying new remedies than attempting to understand the nature and cause of disease.

3. The influence of Pyrrho and the Sceptics, who numbered many physicians in their ranks.—Pyrrho (fl. 340) had accompanied Alexander to the East, and there, by means of the philosopher Anaxarchus, who went on the same campaign, he became acquainted with the Eleatic school of thought. This school, as represented by Parmenides, had constantly opposed the knowledge which comes to us by the senses to that which we acquire by the powers of the mind. Hence it was easy for Pyrrho to believe that the one avenue to knowledge was as uncertain as the other. For the Pyrrhonists it was impossible to know the true nature of things, for perception only shows us things as they appear and not as they are. The only correct attitude, therefore, which a man can adopt is that of a suspension of judgement (*ἐποχή*). This philosophy of Doubt had the effect of limiting investigation to the narrow sphere of sense knowledge. Sterile and unsatisfactory as such an intellectual standpoint must necessarily be in many aspects, its influence on medicine was, in a certain measure, beneficial. For, at least, it drew men's minds away from the speculative fog in which the school of the Dogmatists was fast losing itself, and brought them back to the humble task of observation, which must ever be the foundation of such a science as medicine. The Empirical school, therefore, limited the task of medicine to practical ends only, regarding it as futile to press forward to the ultimate causes of phenomena. They paid special attention to the totality of symptoms, without occupying themselves either with the nature of disease or its causes. According to them, medicine is concerned with the cure, not the cause, of disease; they did not want to know how we digest, but what is digestible. They adopted the unanswerable attitude of the practical man "that diseases are not cured by eloquence but by remedies" (*morbis non eloquentia sed remediis sanari*), and "that a man does not even become a farmer or a pilot by arguing but by practice" (*ne agricolam quidem aut gubernatorem disputatione, sed usu fieri*). They defined disease as "a union of symptoms which are observed always in the same way in the human body." The whole art and science of medicine became, therefore, reduced to a system of therapeutics. Three different methods were employed by them for finding out what particular treatment would get rid of a particular set of symptoms:

- (1) A man's own observations—autopsy.
- (2) Learning from his contemporaries and predecessors—history.
- (3) In the case of new and strange diseases by drawing conclusions from those most similar to them—analogy.

These three methods were known as the Tripod of the Empirics. Later on a fourth method was added called "Epilogism"; this was the process of inferring preceding events from the present symptoms. Thus the empiric might conclude from the extreme inflammation of a wound that it had been poisoned, and treat it accordingly, without falling into the dogmatic heresy of looking for hidden causes. Since the main object of medicine was not to understand disease, but to remove it (*non interesse quid morbum faciat, sed quid tollat*), they regarded the study of anatomy as superfluous, and some had the energy to write treatises showing it to be unnecessary. One other intellectual influence affected the Empirics, and that was the Aristotelian logic with its definitions and syllogisms. In spite, then, of their very practical maxims, they expended

³ Zeller, *Outlines of Greek Philosophy*.

as much mental energy in word-splitting, definitions of the pulse, etc., as ever the Dogmatists had done in their speculations as to the hidden causes of disease.

Empiricism by imperceptible gradations easily passes into charlatanism, and even this famous school resolved itself eventually into a search for specifics, the immediate result being the introduction of numerous strange drugs, for example, hare's heart, camel's brain, etc.

THE METHODICAL SCHOOL.

Intermediate between the schools of the Dogmatists and Empirics came that of the Methodists. This name is doubtless more familiar to English ears as the sobriquet jestingly given by a Christ Church undergraduate to the small group of friends who gathered round the brothers Wesley in Oxford in the middle of the eighteenth century on account of their regular manner of life and behaviour.⁴ The name as originally given had, of course, reference to intellectual and not moral qualities. It was not very appropriate, though the founders of this school did perhaps commit themselves to a more definite and precise theory of disease than either the Dogmatists or Empirics had done.

The chief philosophic influence which guided the Methodists was that of the Epicureans; in fact it would hardly be too much to say that their whole system was the application of Epicureanism to medicine. The great exponent of this doctrine was Asclepiades of Bithynia, who, though not usually regarded as the founder of the Methodical school, was certainly its immediate forerunner, and, indeed, Themison of Laodicea, to whom is ascribed the honour of founding the school, was actually his pupil. Asclepiades, like the Epicureans, taught that the body of man was made up of innumerable atoms with pores. Health (*συνεπεια*) consists in the size, mass, arrangement, and movement of the atoms being normal and the width of the pores being normal. The object of the physician was to prevent the wrong relationship of the atoms to the pores; thus few medicines were required and certainly none of a drastic nature, but the application of ordinary physical, mechanical, and dietetic measures. The foundation of this school synchronizes with the migration of medicine from Alexandria to Rome as the centre of intellectual activity. Medicine was indeed long in making her way into Rome. Such an art was regarded not only as unnecessary for a strong and manly race like the Roman, but also as a despicable pursuit only practised and required by the effeminate and degenerate Greeks. Cato was the coryphaeus of this particular Chauvinism, for to him the Greeks and all their works were hateful, and he would have echoed the cry of the Trojan Laocoon, *Timeo Danaos et dona ferentes*. Some of his utterances seem to recall the strictures of Plato on physicians,⁵ nor have such strictures ceased entirely in our own day. To Asclepiades is due the credit of having forced a way for medicine into Rome, but it had to appear along with literature and rhetoric in the garb of the philosophy which corresponded with the prevailing taste. This highly-accomplished physician, who, among other things was renowned for his eloquence, had the astuteness to perceive how the medical prejudices of the Roman citizens were to be combated, and therefore he founded a system of medicine quite opposed to the Hippocratic and all previous teaching which he used to ridicule, but in harmony with the general point of view of Roman life and thought, which was at that time mainly Epicurean though to some extent Stoical. Having thus, as we have seen, based his medical theory on the doctrines of Epicurus, he allowed his practice to be determined largely by the principles of Zeno. His aim was to bring back to the Romans the old manly life which they had lost and which they all the more keenly sought to recover. His therapeutic measures were therefore entirely in accord with this object, so that he used to recommend:

1. Less food and drink.

⁴ "One person with less reverence and more learning, observed, in reference to their methodical manner of life, that a new sect of Methodists was sprung up, alluding to the ancient school of physicians known by that name."—Southey's *Life of Wesley*.

⁵ "Well I said and to require the help of medicine, not when a wound has to be cured or on occasion of an epidemic, but just because by their lives of indolence and luxury men fill themselves with waters and winds, as if their bodies were a marsh, compelling the ingenious sons of Aesculapius to find names for diseases, such as flatulence and catarrh; is not this, too, a disgrace?"—*Republic*, Bk. iii.

2. Rubbing the body.
3. Active and passive movements.
4. Great use of cold water, especially rain baths.

Themison of Laodicea and his successors continued this Epicurean teaching of Asclepiades; but they neglected the atoms and concentrated their attention on the pores, an abnormal condition of which is the cause of disease. The pores, according to them, are either in a state of too great relaxation (*ρύσις*) or too great contraction (*στέγνωσις*); later there was added the idea of a mixed condition (*τὸ μεμυγμένον*). It was these three fundamental forms of disease which made up the famous "communities" (*κοινότητες*) of this school. Every illness is the expression of a "community" governing the whole body, the character of which may be recognized from the general condition of the body, and specially from the condition of the secretions. Therapeutics in their hands became a very simple matter; in any given case of illness it was only necessary to decide whether the pores of the body were contracted or relaxed and then to apply either laxative or astringent remedies accordingly. For the latter object they employed cold air and water, vinegar, alum, lead and chalk, while their laxative remedies consisted in venesection, cupping, leeches (which were first introduced by this school into European medicine), also poultices, fomentations, and warmth generally. Purgatives they rejected, maintaining that they only substituted the opposite form of disease. It will thus be seen that in therapeutics the school adopted the principle of *contraria contrariis curantur*, which is analogous but antagonistic to that of Hahnemann and homoeopathy. Such a theory as this must often have landed its exponents in a practical absurdity, as when the stricter members of the school held that even in cases of poisoning it was not necessary to consider the poison, but only the state of contraction or relaxation of the pores which it might have produced. Fortunately, perhaps, for the patients common sense frequently prevailed, so that the Methodists were not always consistent in the application of their principles. Thus Celsus gives us an instance of the physician Cassius, who, when summoned to a patient seized with fever and very thirsty, recognized that the condition had supervened on a drinking bout and made him drink cold water; when the water by mingling with the wine had tempered the force of it, he slept and sweated, so that the fever was removed. In acting with such readiness the physician did not trouble to consider whether the body was contracted or relaxed, but he was guided by the cause which preceded the onset of the evil.⁶

The Methodists as the medical exponents of the popular philosophy of the day had their full share of intellectual pride; thus Thessalus of Lydia, one of the most distinguished members of the school, considered that nothing had been known in medicine before his time. Reversing the famous aphorism of Hippocrates, he held that art was short and life was long, and undertook to teach his pupils medicine in six months, and on a monument in the Appian Way he styles himself "Conqueror of Physicians" (*ἱατρονίκης*). On the whole, the Methodists had closer intellectual affinities with the Dogmatists than with the Empirics. Like the former, they reasoned on general pathology, and admitted different classes of pathological states, for example, "the contracted" and "the relaxed," but they refused to search after hidden causes, confining their attention solely to such causes as were evident. Vague and uncertain as these pathological states undoubtedly were, they did at least constitute the basis of a medical system, whereas the Empirics rejected all system. There was, however, this in common with the Methodists and Empirics, that each school allowed itself to be guided by the general concourse of symptoms, but the Empirics admitted no reasoning between the symptoms and the line of treatment to be adopted, whereas the Methodists argued back from the symptoms to the state of the pores, and adapted their treatment accordingly. They both agreed in disregarding the study of anatomy.

The history of these three schools does not present us with any great names or epoch-making discoveries, and on the whole medicine cannot be said to have made any serious advance in the period with which we have been dealing. A reason for this may be found in the fact that the centre of gravity of philosophic thought had shifted

⁶ Celsus, Lib. I.

from the purely scientific contemplation of the world to the solution of practical questions, and philosophy became mainly valued as providing men with a refuge against the miseries of life. Interest became concentrated on the individual, and ethics took the place of physics. The Stoics and Epicureans seem to have accepted any view of physics which came easily to hand, without devoting their whole energies to the comprehension of the cosmos, as the pre-Socratic philosophers had done. Like Plato, they probably regarded the consideration of physics as a rational pastime only.

The most useful results would seem to have emanated from the Empirical school, perhaps because they were less dominated by theory; at the same time, from a wider standpoint, such a school must always be inimical to the ultimate progress of medicine. Some system must surely be better than no system, for at least it admits the possibility of a rational co-ordination of knowledge. Without a belief in the uniformity of Nature, which is hardly possible on a basis of pure empiricism, all science becomes a phantasmagoria of strange images, medicine a congeries of ill-assorted facts, and life itself intolerable to a rational being.

OLIVER WENDELL HOLMES AND SEMMELWEIS.

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In the columns of the BRITISH MEDICAL JOURNAL, November 4th, 1905, Dr. C. J. Cullingworth immortalized the memory of Oliver Wendell Holmes, one of the most eminent physicians of the pre-Semmelweis era, and revived his work concerning "the contagiousness of puerperal fever."

Who can tell how many women have been indebted for their lives to the precautions drawn up in his "conclusions" so warmly recommended by Holmes to his professional brethren! Posterity, therefore, is only doing Holmes justice in acknowledging its debt of gratitude by honouring his memory.

I have no desire to be a "wet blanket," nor do I wish to depreciate Holmes's merits, and this is certainly no place for an "apology" in defence of Semmelweis. But I fear there may be some who will consider Holmes's "conclusions" (if only at first sight) to be identical with the discovery and teaching of Semmelweis. And, if such were the case, we should be compelled in the name of justice to tear the laurel wreath of priority off Semmelweis's brow and present it to Holmes. For Holmes published his conclusions in 1843, whereas Semmelweis did not make his discovery until 1847. My fear that the results of the respective researches of the two men may be considered identical is increased by the fact that in 1902 Simon Baruch, of New York, actually declared for the identity and did not hesitate to deprive Semmelweis of all claims to priority in favour of Holmes.

On the present occasion it is my duty to show, in the light of objective truth, what connexion there is between the views of Holmes and the teaching of Semmelweis, or, rather, what are the merits of Holmes and what do we owe to Semmelweis. The answer will be found in a few data of the history of puerperal fever.

If we peruse the annals of this destructive, almost epidemic, complaint in the Forties—that is, immediately prior to the appearance of Semmelweis—we may recapitulate in brief the long story told in these passages as follows: The utmost chaos, an absolute want of method, prevailed in regard to the views, opinions, and precautions to be taken to prevent puerperal fever. A hundred different views were circulated at the time, a hundred various kinds of measures were taken to hinder the ravages of the disease, which was then considered epidemic. *Quot medici, tot scholae* may be said of that period. Among the many useless measures and erroneous views held at that time, only one theory appears in an advantageous light—namely, the theory of the contagiousness of puerperal fever. The advocates of this theory, though their views concerning the etiology of the disease were absolutely erroneous, displayed an activity in prophylaxis that was distinctly beneficial as preservative of life in certain cases of puerperal fever. In the Forties the most eloquent supporters of this theory, which later on they

attempted to propagate all over Europe, were the British and American physicians.

Classifying puerperal fever as a contagious disease, the "Contagionists" took all possible precautions to prevent the supposed contagion being carried from living persons, or corpses either, to healthy women in childbed. In accordance with their theory they never by any chance went direct from a case of puerperal fever or from a patient suffering from the presumably infectious erysipelas to the bedside of healthy lying-in women; and as they believed that contagion survives the victim, they avoided passing straight from the dissection of victims of puerperal fever or erysipelas to the bedside of healthy women. The Contagionists were in this respect so conscientious, so scrupulous in taking the consequences of their theory, that they actually undertook long journeys before recontinuing their obstetrical practice. There were physicians who extended their precautions to cases of typhoid fever also.

The precautions of the Contagionists were the result of a false etiology, nevertheless they were beneficial to humanity. To-day we know well that the physician who is not very scrupulous after attending a case of puerperal fever can infect a woman in labour not by the specific contagion of puerperal fever, but by pyogenic bacteria.

The experience made was right, but not the interpretation thereof; the etiology established by the Contagionists did not comprehend all possibilities, did not unite all the etiological factors discovered by Semmelweis.

It is a lamentable fact that even to-day there are obstetrical books in which the discovery of Semmelweis is considered to be merely a precise form of the "theory of corpse-virus." Semmelweis himself, who was well acquainted with the opinions and the precautions of the Contagionists, remarks about them:

They acknowledged one portion of the truth, but not the whole truth, and there may have resulted out of the non-acknowledged part of the truth many cases of resorptional fever which might have been prevented."

Prior to Semmelweis's discovery the English and American Contagionists saved many lives, which would have been sacrificed in the hands of physicians advocating any other of the many theories of the day.

No doubt it was an act worthy of acknowledgement and appreciation that Holmes published his essay on the contagiousness of puerperal fever, and that he reissued it later in pamphlet form recapitulating in the form of "conclusions" all precautions hitherto successful in preserving life, requiring and insisting upon their observance by his professional brethren.

Then came the year 1847. The "sun of puerperium had risen." Semmelweis discovered the whole, eternally true, etiology of puerperal fever. He discovered that puerperal fever and pyæmia are identical processes, proved that puerperal fever may result from the resorption of any decomposing organic substance. As is well known, Hebra and Skoda in their widely-circulated periodical, *Zeitschrift der k. k. Gesellschaft der Aerzte zu Wien*. (1847-48) published the teaching of Semmelweis. In the year 1850 Routh familiarized the British profession with the causes of endemic puerperal fever, and in his publication reissued later in pamphlet form he produced proofs to convince his readers of the non-contagiousness of the same.

It was not merely Routh who informed the Contagionists of their error; Semmelweis himself, as we learn from his writings, wrote letters to his antagonists, the opponents of his teaching, attempting to enlighten them and convince them of the truth of his statements.

The first answer and the first refusal came from the Contagionists, especially from their principal advocate, Simpson of Edinburgh. For years, right up to his death, Semmelweis waged war against the Contagionists. They clung stubbornly to their old theory, considering puerperal fever to be a disease of a specific nature, which, as such, can be transposed from one individual to another; on the other hand, Semmelweis, identifying puerperal fever with pyæmia, put the etiology of the former on the broad basis of the latter. There is no publication of Semmelweis on puerperal fever which does not throw into relief the enormous difference existing, like a chasm, between his doctrine and the theory of the Contagionists. In a voluminous work published in 1860 he describes the nature of "the difference of opinion between me and the English

¹ Györy: Semmelweis: gesammelte Werke, p. 477.

physicians on the question of puerperal fever."² Even in his "Open Letters," written towards the end of his life, many pages are full of his bitter, almost desperate, struggle against the Contagionists, a fact which proves that even in the Sixties the latter refused to accept his teaching, as well as that the doctrine of Semmelweis and the theory of the contagiousness of puerperal fever were not identical.

I have done my best to give a short explanation of the great difference between the doctrine of Holmes and that of Semmelweis—principally, as I mentioned in my introductory words, to prevent the resemblance between the two, that appears on a cursory glance, being mistaken for an identity. But I am ready myself to do historical justice to Holmes. It would be against all historical sense to deny the merits acquired by a prominent man or to deny him credit for the benefits he has conferred upon humanity merely because he was succeeded by another age and another man who discovered the whole truth.

But to do Holmes the justice due to him I must divide the activity of the Contagionists into two periods. In the post-Semmelweis period the Contagionists clung to the fragmental truth they had discovered, and prevented the spread of the teaching of Semmelweis, an action for which they deserve the greatest reproach. And in the pre-Semmelweis period, when all the myriad other theories did not contain even the germs of the truth, the Contagionists had already discovered a part of the same, and put a great number of women attended by them under the protection of an etiology that was well if only partially grasped but incorrectly interpreted.

That was the *glorious* period of the Contagionists. In rendering our tribute of gratitude to them for their activity in this period we must do particular homage to the memory of the most prominent man amongst them—to O. W. Holmes—because nobody did more to accentuate the urgent necessity of the salutary precautions known at that time, and formulated by him in his *Conclusions*. C. J. Cullingworth has rightly perpetuated his life and activity.

THE MEDICAL FACULTY OF LONDON.

[FROM A CORRESPONDENT.]

THE unrivalled wealth of London in clinical material and the high position accorded to its physicians and surgeons in the medical world would mark it out as the proper seat of a medical school which should be second to none in point of numbers, equipment, or renown. It was a natural expectation, therefore, that the reconstitution of the University of London, together with provision for the representation of the professorial bodies and schools on the Senate, and the organization of the teachers of medicine into a Faculty and Boards of Studies, would be at once the occasion for a marked development of the Medical Faculty of London and the opportunity for the concentration of the disunited efforts of a number of more or less efficient schools to form a Metropolitan School of Medicine. It is impossible, however, with a stroke of the pen, to convert institutions with long traditions behind them into integral parts of a University dating from yesterday. The very excellence of the work carried on in the medical schools of London under previous conditions increases the inertia which has to be overcome in attempting their improvement under a scheme in which the individuality of each school is subordinated to the interests of the greater Medical School of London.

In framing the regulations of the reconstituted University, the Commissioners, although refusing to take the responsibility of inaugurating any fundamental change in the conditions of medical teaching in London, laid down certain lines along which the Senate might proceed in this direction. The Senate of the University in its relation to the medical faculty has consistently followed the policy thus suggested, and since the final result of their action must be to effect a striking change in the medical curriculum of London students, some account of this policy may be of interest to readers of this JOURNAL. The art and the craft of medicine can be learnt only in connexion with patients, and, therefore, in the wards of the hospitals. Moreover, the science of medicine proper, including pathology in its widest aspects, cannot be

dissociated from the practical study of cases, and it is important that every hospital school should be as perfectly equipped as possible for the study of morbid processes. As regards the other sciences of the medical curriculum, such as chemistry, physics, biology, anatomy, and physiology, the same necessity for attachment to the wards of a hospital does not exist; the system which has grown up in London of endeavouring to make every hospital school a medical faculty in miniature, is attended with grave disadvantages, and involves the saddling upon these schools of burdens which must diminish their efficiency in dealing with those studies which should form their chief occupation. If the teaching of these early subjects is to be more than a mere cramming process each subject involves an expenditure on staff and laboratories which it is impossible to meet out of students' fees. On the other hand, the system which until recently obtained, and under which each of these subjects was taught in all the twelve medical schools of London, involved a lack of economy both of material and labour, which served to exaggerate its defects. The Commissioners therefore suggested that the teaching of the preliminary and early medical studies should be concentrated in one or more centres under the University, and laid down in Statute 80 of the University of London Act, 1898, that "the Senate shall use its best endeavours, whenever practicable, to secure such common courses of instruction for internal medical students in the preliminary and intermediate portion of their studies, under appointed and recognized teachers at one or more centres." The aim and object of such a change is not only the improvement of the teaching of the early studies, and indirectly of the advanced medical studies, but also to bring every medical student in London during the first three years of his career within the influence of the University.

At the present time many of the London medical students have obtained an academic training in the medical sciences in the Universities of Oxford and Cambridge. Under a scheme such as that outlined by the Commissioners, the student who, for pecuniary or other reasons, desired to obtain his whole training in London, would be a student of the University (whether matriculated or not) and would spend his first three years in the University laboratories. He would then make his choice of the hospital which he considered most suitable for the pursuit of his clinical studies, including pathology.

The Senate of the University has adopted this scheme, and has already taken some important steps for its fulfilment. It is evidently impossible to single out any one of the hospital schools, as centres for the early studies, without inflicting some injustice on the others. Such centres must be under the immediate control of the university; the Senate must keep in its hands the selection of the staff and the direction of the finances. Such a transfer of responsibility is not possible in the case of the hospitals. With a view, however, to the better organization of the University, both University and King's Colleges have agreed to incorporation in the University, placing their whole resources at the disposition of the Senate, and establishing, as separate corporations, the hospitals and schools of advanced medical study, which previously formed part of these institutions. In University College most of the chief professorships in the preliminary and early medical studies are already endowed. It is, therefore, possible to equip and maintain these departments with a proper staff and equipment.

Although the incorporation of University College does not nominally take effect until January 1st, 1907, and that of King's College may be still further postponed, the Senate has already given evidence of its desire to carry out the scheme of the Commissioners by naming these two institutions as centres for preliminary and early medical studies. It might be objected that such an act was premature, since it is impossible to accommodate at these two institutions the whole of the medical students engaged in these studies. But the transfer from hospitals to university of scientific departments, which have taken years to establish, and involved considerable sacrifices on the part of the schools, cannot be effected in a day. At the present time, only the schools of St. George's and Westminster Hospitals have formally transferred their teaching of these subjects to the care of the University, and these, with the separated medical schools of University College and King's College Hospitals, represent the four purely

² Györy: Semmelweis, *ibid.*, p. 83.

clinical schools of the Metropolis. Some time will probably elapse before all the other schools find it to their interest, as it must be to the interest of medical teaching in London, to give up the teaching of the early studies, and to concentrate their scientific efforts in the prosecution of the science of medicine and surgery.

In the meantime the Medical Faculty, which includes all the teachers in the London medical schools, has drawn up a scheme for the establishment of a third institute of medical sciences in the immediate neighbourhood of the University offices at South Kensington. A Committee of the Senate has been entrusted with the carrying out of this scheme, and has now, with the sum of £25,000 bequeathed by the late Mr. Beit, about £70,000 available for the erection of a suitable building. There seems no reason, therefore, for further delay in the establishment of a third centre for preliminary and early medical studies at South Kensington, which shall be able to accommodate an entry of 150 students yearly. By the removal of the boys' school from University College, buildings will be rendered available for the provision of increased accommodation in physiology, chemistry, biology, anatomy, and pharmacology, so as to admit with comfort a yearly entry of 100 medical students. The three University centres together will therefore be able to deal with a yearly entry of 350 medical students, which is greater than the total number of first-year students in London.

Provision is thus made for the gradual transformation of the whole medical teaching in London, and we may confidently anticipate that within a few years the majority, and not a favoured minority, of the London medical students will be students of the University. It cannot but contribute towards the advancement of medicine in this country if the medical schools are freed in this way from the burden of the early medical studies and enabled to devote the whole of their laboratories and the scientific capacities of their younger men to the investigation of disease.

The student, on commencing his studies, will join a university centre, whether he intends to work for the London M.D. or for the diploma of the Royal Colleges. Here he will have his preliminary and early sciences, and only when he has completed his anatomical and physiological studies will he select the hospital school where he will spend the last two or three years of his curriculum, and to which he will bring wider views and higher ideals than if he had gone straight from school to his professional studies.

LITERARY NOTES.

DR. RODOLFO DEL CASTILLO Y QUARTIELLERS, Ophthalmic Surgeon to the Instituto Rubio of Madrid, has recently published a work dealing with ophthalmology in the time of the Romans (*Oftalmología en tiempo de los Romanos*). The learned author, whose name is well known to archaeologists by his *Epigrafía Oftalmológica Hispano-Romana*, and his monograph on the code of Hammurabi and ophthalmology in ancient Babylon, studies exhaustively the seals of Roman oculists. He devotes a whole chapter to that of Caelius Diadumenus, commonly known as the Madrid seal. Another chapter is given to the inscriptions on the tombs of Roman oculists. Of these, two, commemorating respectively Marcus Fulvius Icarus, of Aguilar (Cordova), and Albanus Artemidorus, of Chiclana (Cadiz), belong to Spain. Four chapters are devoted to the collyria used by Roman oculists, and in other chapters therapeutics, materia medica, and operations on the eye are treated of. A bibliography, extending to fourteen pages, and an epilogue bring the work to a conclusion. It should be added that Dr. Castillo is no Dryasdust, but a graceful writer who handles his subject in a manner that makes it interesting even to readers who are not specialists either in diseases of the eye or in archaeological lore.

Dr. Major Greenwood sings, in a poem reprinted from the *Medical Magazine*, of the Truthseeker, a huntsman who lived in the "Valley of Fond Delusion." One day when resting he thought he saw a wondrous bird whose beauty so ravished his eager mind that he determined to pursue it. But his search was vain till he met a sage who told him the name of the bird was Truth. To find it he must seek the land that greets the dawn of day,

And in the Plain of "Bare Negation" night

must pass many a weary day and dreary night. If he manages to leave this plain he will find a lofty mountain range. His hopes are excited by the advice

Then climb, and if 'tis thine to scale the height
Thou shalt discover where Truth takes her flight,

only to be dashed by the discouraging announcement,

But mortal man that height can never scale!

He may, however, get up a few score feet, and may then, as he is overtaken by death, secure

One single feather from the "Bird of Truth."

Deterred by the prospect, Truthseeker stayed in his happy valley for a time, till the desire to find the bird of Truth drove him forth to climb the Mountain of Reality. He was a youth when he set out, but an old man before he reached the mountainside and began to climb. At the end he grasps something which brings a sweet and holy calm to his brow,

But what the heavenly prize that him befell
Nor I nor any mortal man can tell.

"What is truth?" said jesting Pilate; and would not stay for an answer." If we read Dr. Major Greenwood's allegory aright, there is no answer to stay for. The reward of the search for truth is like that of the fox-hunter, not the quarry but the chase.

In a communication which appears in the *Echo Médical du Nord* of August 19th, Professor H. Folet, of Lille, gives some particulars, from two unpublished documents, as to the treatment of lunatics in France in the sixteenth century. In the Middle Ages mad folk were generally regarded as possessed of the devil. Vast numbers of lunatics were burnt as witches or sorcerers; others, in whom the disease was of a milder type, were allowed to wander about, the playthings of the thoughtless and the victims of the brutal. Till the introduction of more humane methods of treatment by Pinel in France, and by Tuke and Conolly in this country, the insane were dealt with as if they were criminals; they were loaded with chains, held fast by instruments of restraint, and unmercifully beaten if they were violent. In the sixteenth century those who escaped burning were treated by exorcisms and penances. In the therapeutics of insanity in France at that time the saints played a large part. Certain shrines were especially famous for the cure of madness. Lunatics were taken to the Church of Castel-Sarrasin, a little town of Haute-Languedoc, or to that of Bonnet in the Vosges. To Besançon crowds of mad folk went on the feast of the Holy Shroud, the idea being that no evil spirit could resist the touch of so sacred a relic. Each province had its own saintly specialist in mental diseases. In Brittany there was St. Gildas, who is mentioned by Rabelais; in the Bourbonnais there was St. Menoux; in the Haut-Rhin, St. Dizier. At Gheel in Belgium Ste. Dymphne enjoyed a very high reputation. Another celebrated shrine was that of St. Nazaire at Ablain near Arras. In the archives of Lille and in those of La Bassée M. Folet has found documents which give a glimpse of the ritual of healing at that shrine. In the Lille archives, under date 1483, there is record of a payment made to a locksmith for irons for the feet and hands, and a chain 4ft. long with a ring, for one Pietremmuis, or Betremmieux, described as *insensé et furieux*. Later entries show that the unhappy lunatic was provided with clothes bought secondhand and taken to Arras to make his offering to St. Nazaire, and finally restored to his family. The whole procedure occupied twenty-two days, and a claim for payment on a higher scale than usual is made by those who had charge of him, for that the said Pietremmuis was *fort homme et rude*. As to what passed at the shrine the document is silent. Some light on this part of the treatment is thrown by the other document, which records how in 1594 Jean Clays of La Bassée went mad. He does not seem to have been violent, for there is no mention of irons or of a chain. The municipal authorities decided to send him to Ablain. There fees had first to be paid to the Church and to the curé. Then during the space of three novenas (nine days of prayer), each beginning with a mass, the patient was taken every day to the church, where the curé read the Gospel to him. In addition to this the curé "wrote some letters of Monsieur Saint Nazaire" for the patient; what these "letters" were—whether special forms of prayer or soothing reflections supposed to be inspired by the saint

—can only be conjectured. Jean Clays being no better for the treatment, was taken back to La Bassée and lodged in the town prison, where he appears, from the accounts for his maintenance, to have remained for many months. Then no more is heard of him. Pilgrims to the shrine of St. Nazaire are few in these days of little faith, but the curé told M. Folet that the relics of the saint are still exposed in the church every year in the month of June. In the porch there is a stone seat where the patients sat while the religious rite was performed; attached to the wall are still to be seen some rings to which poor maniacs could be fixed by the chains with which they were loaded.

In a thesis recently presented to the University of Paris, Dr. Boyer de Choisy gives an interesting account of medical student life in that famous seat of learning in the sixteenth century. The relations between professors and students were cordial and familiar; they sat at the same table, mingled in games and sports, and too often joined in riotous behaviour. The fifteenth century student was a thirsty creature, as his songs abundantly testify. The following is a specimen:

Quicunque vult esse frater
Bibat bis, ter et quater
Bibat semel et secundo
Donec nihil sit in fundo
Et pro Rege et pro Papa
Bibe vinum sine aqua;
Et pro Papa et pro Rege
Bibe vinum sine lege.
Haec una est lex bacchica,
Bibentium spes unica, etc.

The students of the seventeenth century were not more temperate, if we may judge from the following song, which is taken from a collection of old songs published in 1640:

Je suis un docteur tousiours yvre
Qui tient rang inter sobrios
Et si jamais je n'ai veu livre
Qu'espistolas ad ebrios;
Et moy, de qui la panse esclatte
Nimis plenis visceribus,
J'ay les yeux bordés d'escarlatte
Et nasum plenum rubibus.
Et tousiours, tousiours chante
Qu'il vaut mieux avoir vin que trente.

The *International Code of Zoological Nomenclature* is the title of a pamphlet by Ch. Wardell Stiles, Ph.D., Chief of Division of Zoology, Hygienic Laboratory, U.S., Public Health and Marine Hospital Service, which was issued last year from the Government Printing Office, Washington. This code was adopted after several preliminary meetings and discussions at the fifth International Zoological Congress held at Berlin in 1901, and was adopted in printed form at the sixth meeting of the Congress held at Berne in 1904. It is the work of a commission composed of Raphael Blanchard of Paris, J. V. Carus of Leipzig, F. A. Jentink of Leyden, P. L. Slater of London, and C. W. Stiles. While not attempting to dictate to men of science what they shall or shall not do, the commission submits the rules to the serious consideration of all workers in the spirit expressed by Strickland in 1842, namely, "We offer them to the candid consideration of zoologists in the hope that they may lead to sufficient uniformity of method in future to rescue science from becoming a mere chaos of words."

MEDICAL NEWS.

The first meeting of the 1906-7 session of the Clinical Society of London will be held on Friday, October 12th, at 8.30 p.m.

SIR HENRY D. LITTLEJOHN, LL.D., will deliver the opening lecture of the winter session of the Medical Graduates' College and Polyclinic, on Monday, October 1st, at 5.15 p.m. Subject, The Practice of Forensic Medicine. All members of the medical profession are cordially invited to be present.

A MEDICAL exhibition similar to that held last year will be opened on October 1st in the Royal Horticultural Hall, Vincent Square, Westminster, and will be continued from 11 till 6 daily on the four following days. The Secretary will be pleased to send a ticket of admission to any member of the profession who will address him care of the *British and Colonial Druggist*, 44, Bishopsgate Without, E.C.

CURRENTS, the chief contribution of Greece to the food-stuffs of the world, have in recent years lost some of the reputation which they formerly possessed, owing, apparently, partly to the ravages of disease, and partly to carelessness in the picking and handling of the fruit. With the assistance of the Greek Parliament serious efforts have in recent years been made to put the trade upon a sounder basis, and there is reason to hope that the gathering of immature fruit and insufficient drying—defects which have caused the condemnation of some consignments both in this country, in Australia, and in New Zealand—will cease. If this policy be carried out it is probable that we shall see a more extensive use of currant bread, a wholesome palatable article of diet, which used to be far more popular than it is at the present day.

BEQUESTS.—Under the will of the late Mrs. Ellen Amelia Rigge, of Spalding, Lincolnshire, the London Hospital and the Johnson Hospital, Spalding, divide half of the residuary estate, which is estimated to be of the value of £8,000. Under the will of the late Miss Janet Dai Hamilton, of West End Lane, N.W., the Corfu Hospital and the Corfu Dispensary each receives £250, sums of £50 going likewise to the Royal Infirmary, the Western Infirmary, and the Deaf and Dumb Institute, all of Glasgow.

CRIPPLED CHILDREN'S HAMPERS.—For special reasons the Crippled Children's Hamper Fund has been opened much earlier than usual this year, and His Majesty the King has sent his annual subscription of 10 guineas. The object of the Fund is to send a hamper of Christmas fare direct to every crippled child in London who cannot attend the annual Children's Banquet at the Guildhall. On an average 7,000 hampers are thus dispatched every Christmas, each containing enough to enable the child to act as host to its family for the day. Subscriptions should be sent to Alderman Sir William Treloar, 69, Ludgate Hill, E.C., who has now kept the scheme going for thirteen years.

ARRIVAL OF BARON TAKAKI IN JAPAN.—Baron Takaki, after his visit to the United States and Europe, arrived at Yokohama on July 16th. He at once proceeded to Tokyo, where he was received by the leading representatives of the medical profession of the Japanese capital, among whom were Professor Baron Saneyoshi, Surgeon-General Yamamoto, Surgeon-General Kagami, and Professor Kanasagi. A body of students of the Tokyo Charity Hospital Medical School, some 200 strong, were drawn up on the platform and welcomed their returning chief with shouts of "Banzai!"

FAVUS IN ROME.—A Society for the Promotion of the Study of Photo-Radiotherapy has been founded in Rome. Under its auspices an institute has been opened and placed under the direction of the Vienna dermatologist Dr. Rudolf Steiner. The municipal authorities have commissioned him to organize a scheme of systematic treatment of favus with the x rays in the province of Rome where more than 10,000 children are the subjects of the disease.

MEDICAL DEPARTMENT, UNIVERSITY COLLEGE, BRISTOL.—The annual prize-giving will take place on October 2nd in the Lecture Hall, University College, at 4.30 p.m. The prizes will be distributed by Professor Alexander Macalister. The same evening at the Royal Hotel, College Green, the Bristol Medical School annual dinner will be held. Dr. Frank J. Wethered will preside, and Professor Macalister will be the guest of the evening. Tickets for the dinner, which are five shillings each, may be had on application to F. H. Rudge, Royal Infirmary, Bristol.

ROAD DUST AND HEALTH.—In a recent letter to the *Sanitary Record* Dr. E. M. Smith, Medical Officer of Health for York, discusses the influence of road dust on health and draws attention to his annual report for 1905, in which he suggested that an increase of diphtheria noted in the district was not improbably due to the clouds of dust raised by automobile traffic. He believes that if the bodies of motor cars were raised two feet above the road and had level under surfaces they would cause no more dust than ordinary horse-drawn vehicles; he does not, however, seem disposed to give sufficient credit to the automobile industry for the efforts it is making very earnestly to discover the true cause of dust raising, and to modify the construction of cars in any way which may practically diminish the dust-raising qualities of cars, and yet not be incompatible with their capacity for rapid movement. Undoubtedly the dust problem will only be solved by a union of forces, and nothing which automobile manufacturers can do will prove thoroughly satisfactory until municipal engineers persuade their authorities to allow them to reconstruct roads in their areas on principles more suitable to the requirements of modern traffic than those which at present obtain.